

# FINAL RESULTS IN 164 CASES OF CARCINOMA OF THE BREAST OPERATED UPON DURING THE PAST FOURTEEN YEARS AT THE AUGUSTANA HOSPITAL.\*

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In order to condense the study of these cases sufficiently to prevent this report from becoming altogether unwieldy it has seemed best to make the following tabulations, which were compiled by my associate, Dr. N. M. Percy, from the case histories of the hospital.

The present condition of 98 patients was determined partly by correspondence with patients and with their physicians, and partly by personal examinations.

From 63 cases no information has been obtained as yet, but only 20 letters have been returned unopened, consequently it is fair to suppose that further information can be obtained concerning the condition of some of the 63 cases not heard from.

Of the 98 cases concerning which we have received reports, 54 cases are still living, and all of these with two exceptions are at the present time free from recurrence.

One patient, case No. 38, had a carcinoma of both breasts, which were removed by primary operation in 1895 elsewhere. In 1897 she had a recurrence in the left axilla, which I operated on December 7, 1897. This side has remained well since. In 1899 she had a recurrence in the right axilla, which was removed elsewhere, and which has just developed a second recurrence.

A second case, No. 45, operated on September 19, 1898, for carcinoma of the breast, remained well until six months ago, when she noticed a swelling the size of a walnut, which has not been definitely diagnosed, although it is likely that it is a recurrence.

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\* Read before the American Surgical Association, May, 8, 1907.

I have not personally examined this patient since she left the hospital.

The following table gives the number of living cases from which we have definite reports :

Duration of time since operation.....	1 year ....	9 cases
	2 years....	11 cases
	3 years....	5 cases
	4 years....	7 cases
	5 years....	4 cases
	6 years....	5 cases
	7 years....	4 cases
	8 years....	1 case
	9 years....	3 cases
	10 years....	1 case
	11 years....	2 cases
	12 years....	0 cases
	13 years....	2 cases
Total .....		54 cases

Of the 54 cases heard from, ten complain of swelling or stiffness of the arm.

An interesting fact observed in our series of cases is shown by the following table of deaths.

It was found that but few of the very advanced cases which were considered quite hopeless at the time of operation lived more than one year after the operation, making the number that died directly after the operation from shock, together with those that lived less than one year, 25, or about 15 per cent. :

## DEATHS.

Died of shock .....	5 cases
Died within 1 year .....	19 cases
Died within 2 years .....	6 cases
Died within 3 years .....	6 cases
Died within 4 years .....	1 case
Died within 5 years .....	2 cases
Died within 6 years .....	1 case
Died within 7 years .....	1 case
Died within 8 years .....	0 cases
Died within 9 years .....	0 cases
Died within 10 years .....	0 cases
Died within 11 years .....	1 case
Died within 12 years .....	0 cases
Died within 13 years .....	0 cases
Died within 14 years .....	1 case
Total .....	43 cases

ANALYTICAL TABLE OF CASES OF CARCINOMA OF BREAST OPERATED UPON AT THE AUGUSTANA HOSPITAL.

Number.	Hospital No.	Age.	Involvement of				Date of operation.	Operation.	Date of last communication of patient.	Result.
			Ax. Cl.	Cer. Cl.	Skin.	Muscle.				
1	565	45	X	.....	.....	.....	April 26, 1887	Excision of breast and axillary glands	.....	Died 10 months later
2	350	49	.....	.....	.....	.....	Jan. 12, 1888	Excision of breast	.....	
3	711	40	X	.....	.....	.....	April 19, 1891	Excision of breast and axillary glands	None	
4	714	62	X	.....	.....	.....	May 8, 1891	Excision of breast and axillary glands	None	
5	787	56	.....	.....	.....	.....	Oct. 4, 1891	Excision of breast	None	
6	799	44	.....	.....	.....	.....	Nov. 3, 1891	Excision of breast	None	
7	961	50	X	.....	.....	.....	Sept. 18, 1892	Excision of breast and axillary glands	None	
8	1069	45	X	.....	.....	.....	March 28, 1893	Excision of breast and axillary glands	.....	Recurrence in 3 months. Died 6 months later
9	1224	61	X	.....	.....	.....	Oct. 24, 1893	Excision of breast and axillary glands	None	
10	1293	47	X	X	X	.....	Jan. 2, 1894	Excision of breast, axillary glands, and cervical glands	.....	Died 6 weeks later of carcinoma of liver, pancreas, and kidneys
11	1319	39	.....	.....	.....	.....	Jan. 30, 1894	Excision of breast	None	
12	1373	44	.....	.....	.....	.....	March 12, 1894	Excision of breast	April 16, 1907	Had recurrence 1 year later. Doctor applied paste causing necrosis Perfectly well since
13	1673	36	X	.....	X	X	Oct. 19, 1894	Excision of breast and axillary glands	.....	Had rapid recurrence
14	1880	31	X	.....	.....	.....	Dec. 26, 1894	Excision of breast and axillary glands	April 24, 1907	No trouble since first illness
15	1970	82	.....	.....	.....	.....	Feb. 14, 1895	Excision of breast	None	
16	2133	63	.....	.....	.....	.....	June 2, 1895	Excision of breast	None	
17	2187	45	X	.....	.....	.....	July 1, 1895	Excision of breast and axillary glands	None	

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28	2351	47	.....	.....	Sept. 6, 1895	Excision of breast and axillary glands	April 15, 1905	No recurrence in 3 years, when she died of some other trouble
29	2621	44	.....	.....	Jan. 21, 1896	Excision of breast	None	
30	2750	66	.....	.....	Feb. 17, 1896	Excision of breast and axillary glands	None	
31	2702	39	.....	.....	Feb. 17, 1896	Excision of breast	None	
32	2705	42	.....	.....	Feb. 18, 1896	Excision of breast and axillary glands. Skin grafted	.....	Died 9 months after operation apparently from involvement of internal organs
33	2863	52	.....	.....	May 9, 1896	Excised axillary and cervical glands. Excision of breast and pectoral muscles	.....	Never seemed to gain much strength and died about 4 months after operation
34	3001	38	.....	.....	June 24, 1896	Excision of breast	None	
35	3110	46	.....	.....	Aug. 10, 1896	Excision of breast	None	
36	3292	57	.....	.....	Oct. 13, 1896	Excision of breast and axillary glands	April 16, 1907	No recurrence. Died of apoplexy, April 12, 1907
37	3328	37	.....	.....	Oct. 29, 1896	Excision of breast	April 16, 1907	Perfectly well since
38	3367	37	.....	.....	Nov. 16, 1896	Excision of breast and axillary glands	None	No relief
39	3373	36	.....	.....	.....	Excision of breast and axillary glands. Applied iodine. Applied calomel	None	
40	3548	66	.....	.....	Feb. 5, 1897	Excision of breast	None	
41	3705	50	.....	.....	March 31, 1897	Excision of breast	None	
42	3745	59	.....	.....	April 18, 1897	Excision of breast	April 17, 1907	No recurrence in 5 years, when she died of nephritis
43	3799	25	.....	.....	May 11, 1897	Excision of breast and axillary glands	None	
44	3945	46	.....	.....	July 5, 1897	Excision of breast and axillary glands	None	
45	4034	63	.....	.....	July 31, 1897	Excision of breast and axillary glands	None	
46	4095	36	.....	.....	Aug. 24, 1897	Excision of breast and axillary glands	None	
47	4395	57	.....	.....	Dec. 1, 1897	Excision of breast and axillary glands	April 22, 1907	No recurrence. Fairly good health
48	4410	29	.....	.....	Dec. 7, 1897	Recurring case. Excision of breast and axillary glands	April 21, 1907	Both breasts removed. Primary operation 1895. Recurred left axilla 1897. Recurred right axilla 2 years later which was removed 18 months ago. Now has another recurrence in right axilla

ANALYTICAL TABLE OF CASES OF CARCINOMA OF BREAST OPERATED UPON AT THE AUGUSTANA HOSPITAL.—Continued.

Number.	Hospital No.	Age.	Involvement of				Date of operation.	Operation.	Date of last examination of patient.	Result.
			Ax. Gl.	Cer. Gl.	Skin.	Muscle.				
39	4783	48	X	.....	.....	.....	March 29, 1898	Excision of breast and both pectoral muscles and axillary glands	None	No recurrence. Never felt better than she does now
40	4909	39	.....	.....	.....	.....	May 3, 1898	Excision of breast	None	
41	5055	38	X	.....	.....	.....	May 22, 1898	Excision of breast and axillary glands	April 19, 1907	No recurrence in 7 years, when she died of some other trouble
42	5156	58	X	.....	.....	.....	July 12, 1898	Excision of breast and axillary glands	April 15, 1907	
43	5281	48	X	.....	.....	.....	Aug. 21, 1898	Excision of breast and axillary glands	None	No signs of recurrence. General health good
44	5362	44	X	.....	.....	.....	Sept. 11, 1898	Excision of breast and axillary glands	Examined April 8, 1907	
45	5397	45	X	.....	.....	.....	Sept. 19, 1898	Excision of breast and axillary glands	April 16, 1907	Felt poorly for 4 years after operation. Since then very well. Some stiffness of arm from shoulder to elbow. 6 months ago noticed swelling size of walnut. Did not state location
46	5416	55	X	.....	.....	.....	Sept. 27, 1898	Excision of breast and axillary glands	.....	
47	5460	50	X	.....	.....	.....	Oct. 5, 1898	Excision of breast and axillary glands	None	Died of cancer two years after operation
48	5484	50	X	.....	.....	.....	Oct. 15, 1898	Excision of breast and axillary glands	None	
49	5525	53	X	.....	.....	.....	Oct. 27, 1898	Excision of breast and axillary glands and pectoral muscles	None	Died of shock on 4th day
50	5541	34	X	.....	.....	.....	Nov. 1, 1898	Excision of breast and axillary glands and pectoral muscles	None	
51	5637	44	X	.....	.....	.....	Dec. 6, 1898	Excision of breast and axillary glands and pectoral muscles	None	Died of shock on 4th day
52	5684	42	.....	.....	.....	.....	Dec. 27, 1898	Excision of breast and axillary glands and pectoral muscles	None	
53	5822	41	X	X	X	.....	Feb. 4, 1898	Excision of breast and axil. and cer. glands.	.....	

54	5830	25	.....	.....	.....	Feb. 5, 1898	Excision of breast	None	Had recurrence in scar 18 months later
55	5887	62	.....	.....	.....	Feb. 19, 1898	Excision of breast and pectoral muscles and axillary glands	.....	
56	6123	26	.....	.....	.....	April 23, 1899	Excision of breast and pectoral muscles and axillary glands	None	
57	6471	28	.....	.....	.....	May 10, 1899	Excision of breast and pectoral muscles and axillary glands. Skin graft	.....	Had rapid recurrence and died about 4 months after operation
58	6453	38	.....	.....	.....	May 30, 1899	Excision of breast and pectoral muscles and axillary glands	None	
59	6552	42	.....	.....	.....	Aug. 17, 1899	Excision of breast	None	
60	6631	50	.....	.....	.....	Sept. 17, 1899	Excision of breast and pectoral muscles and axillary glands	.....	
61	6773	48	.....	.....	.....	Oct. 9, 1899	Excision of breast and pectoral muscles and axillary glands	None	
62	6905	35	.....	.....	.....	Nov. 12, 1899	Excision of breast and pectoral muscles and axillary glands	None	
63	6968	46	.....	.....	.....	Dec. 3, 1899	Excision of breast and pectoral muscles and axillary glands	April 15, 1907	Perfectly well. Can use arm nearly as well as other side
64	7071	64	.....	.....	.....	Jan. 4, 1900	Excision of breast and pectoral muscles and axillary glands	April 26, 1907	Operation successful. Never troubled since
65	7109	55	.....	.....	.....	Jan. 16, 1900	Excision of breast and pectoral muscles and axillary glands	None	
66	7221	44	.....	.....	.....	Feb. 7, 1900	Excision of breast and pectoral muscles and axillary glands	April 18, 1907	No recurrence. Considerable swelling and disability of arm for 3 years, but since then no trouble
67	7350	34	.....	.....	.....	March 12, 1900	Excision of breast and pectoral muscles and axillary glands	None	
68	7394	67	.....	.....	.....	March 21, 1900	Excision of small nodule from old scar, size of pea	None	Recurrent case. Had breast excised 6 months previously. Skin recurrence in line of incision
69	7427	39	.....	.....	.....	March 27, 1900	Excision of breast and pectoral muscles and axillary glands	.....	Died of recurrence 3 years later

ANALYTICAL TABLE OF CASES OF CARCINOMA OF BREAST OPERATED UPON AT THE AUGUSTANA HOSPITAL.—Continued

Number.	Hospital No.	Age.	Involvement of				Date of operation.	Operation.	Date of last communication of patient.	Result.
			Ax. Gl.	Cer. Gl.	Skin.	Muscle.				
70	7528	31	X	.....	.....	.....	April 24, 1900	Excision of breast and pectoral muscles and axillary glands	None	
71	7530	77	X	.....	.....	X	April 24, 1900	Excision of breast and pectoral muscles and axillary glands	.....	Died of shock on 4th day
72	7554	37	X	.....	X	.....	April 29, 1900	Excision of breast and pectoral muscles and axillary glands	.....	Had rapid recurrence and died about 6 months after operation
73	7717	40	X	.....	.....	X	June 5, 1900	Excision of breast and pectoral muscles and axillary glands	None	
74	7749	48	X	X	.....	.....	June 12, 1900	Excision of breast and pectoral muscles and axillary glands	None	Died of shock next day
75	7968	66	X	.....	.....	.....	August 9, 1900	Excision of breast and pectoral muscles and axillary glands	.....	Died of shock same night
76	8083	44	X	.....	.....	.....	Sept. 8, 1900	Excision of breast and pectoral muscles and axillary glands	April 15, 1907	Arm in good health. Has not been bothered again
77	8103	61	X	.....	.....	.....	Sept. 11, 1900	Excision of breast and pectoral muscles and axillary glands	None	
78	8123	38	X	.....	X	.....	Sept. 16, 1900	Excision of breast and pectoral muscles and axillary glands	.....	Recurrent case
79	8141	65	.....	.....	X	.....	Sept. 20, 1900	Excision of large area skin. Skin grafting	.....	
80	8154	50	.....	.....	.....	.....	Sept. 23, 1900	Excision of nodule in scar	.....	Primary operation 18 months previous. Recurrent nodule in scar. Lived 3 years after this; 4½ years after previous operation
81	8350	37	X	.....	.....	.....	Jan. 2, 1900	Excision of breast and pectoral muscles and axillary glands	April 16, 1907	No recurrence to present time; operation successful. No X-ray

82	8575	35	X	.....	Jan. 9, 1901	Excision of breast and pectoral muscles and axillary glands	April 19, 1907	No return of disease. Perfectly well since operation
83	8648	57	X	.....	Jan. 23, 1901	Excision of breast and pectoral muscles and axillary glands	April 20, 1907	Perfectly well since operation. Very useful arm
84	8742	43	X	.....	Feb. 5, 1901	Excision of breast and pectoral muscles and axillary glands	April 18, 1907	Examined personally. No signs of recurrence. No edema of arm
85	8838	39	.....	.....	March 6, 1901	Excision of breast and pectoral muscles and axillary glands	None	
86	9038	46	X	.....	April 18, 1901	Excision of breast and pectoral muscles and axillary glands	April 16, 1907	No return of disease. Has experienced considerable discomfort with arm. But nothing serious
87	9147	29	.....	.....	May 17, 1901	Excision of breast and pectoral muscles and axillary glands	1 year ago perfectly well	Two years later recurrence in line of incision, axilla, and cervical region. All disappeared under X-ray treatment
88	9222	56	X	.....	June 3, 1901	Excision of breast and pectoral muscles and axillary glands	.....	Had recurrence in axillary glands of opposite side in 3 months. Died 6 months later
89	9331	76	X	X	June 26, 1901	Excision of breast and pectoral muscles and axillary glands	None	
90	9538	31	X	.....	Aug. 13, 1901	Excision of breast and pectoral muscles and axillary glands	None	
91	9542	38	X	.....	Aug. 31, 1901	Excision of breast and pectoral muscles and axillary glands	None	
92	9753	34	X	.....	Oct. 2, 1901	Excision of breast and pectoral muscles and axillary glands	.....	Died a few months later, apparently from some internal recurrence
93	9793	67	X	.....	Oct. 5, 1901	Excision of breast and pectoral muscles and axillary glands	.....	Died May, 1905. Had X-ray treatment for 3 years
94	9800	42	X	X	Oct. 7, 1901	Excision of breast and pectoral muscles and axillary glands	.....	Died of recurrence, April 1, 1903. Took X-ray for 1 year
95	9841	70	X	X	Oct. 19, 1901	Excision of breast and pectoral muscles and axillary glands	None	
96	9904	60	X	X	Oct. 31, 1901	Excision of breast and pectoral muscles and axillary glands	.....	Recurred 1 year after operation. Recurrence disappeared under X-ray. Recurred 2 years later. Died 3 years after operation
97	9952	41	X	.....	Nov. 15, 1901	Excision of breast and pectoral muscles and axillary glands	1 year ago	Well at that time.



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Number.	Hospital No.	Age.	Involvement of				Date of operation.	Operation.	Date of last communication of patient.	Result.
			Ax. Gl.	Cen. Gl.	Skin.	Muscle.				
98	10167	60	X	.....	X	.....	Jan. 10, 1902	Excision of breast and pectoral muscles and axillary glands. Skin graft.	.....	Had rapid recurrence and died 4 months later
99	9985	32	X	.....	.....	.....	Nov. 18, 1902	Excision of breast and axillary glands	.....	Died of recurrence 2 years later. Had many X-ray treatments
100	10590	48	X	.....	X	.....	Feb. 28, 1902	Excision of breast and pectoral muscles and axillary glands	April 12, 1907	Perfectly well. Took X-ray treatment for 1 year
101	10441	67	X	.....	.....	.....	March 10, 1902	Excision of breast and pectoral muscles and axillary glands. No improvement	None	
102	10566	67	X	X	X	.....	June 23, 1902	Excised recurrent mass in skin and axillary and cervical glands	.....	Primary operation 6 years previous. Not heard from since second operation
103	10933	66	X	X	X	.....	June 23, 1902	Excised breast and pectoral muscles and axillary glands	.....	Had other breast excised for carcinoma 2 years previous. X-ray for 1 year after first operation
104	11064	52	X	.....	.....	.....	July 21, 1902	Excised breast and pectoral muscles and axillary glands	.....	Died of recurrence in May, 1903
105	11437	64	.....	.....	.....	.....	Sept. 20, 1902	Excised breast and pectoral muscles and axillary glands	.....	
106	11658	54	X	.....	.....	.....	Nov. 22, 1902	Excised both breasts for carcinoma	.....	Died of cancer of stomach 1 year later
107	11790	41	.....	.....	.....	.....	Dec. 8, 1902	Excised breast and pectoral muscles and axillary glands	April 15, 1907	Took 60 X-ray treatments after operation. No recurrence. Great deal of pain in shoulder
108	12015	33	X	.....	.....	.....	Jan. 21, 1903	Excised breast and pectoral muscles and axillary glands	.....	18 months after operation had recurrence in ilium, from which she died. Had X-ray for 1 year following operation
109	12098	57	X	.....	.....	.....	Feb. 6, 1903	Excised breast and pectoral muscles and axillary glands	April 13, 1907	No recurrence. Great deal of edema of arm. X-ray for 1 year

110	12130	44	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	Feb. 26, 1907	No recurrence. Great deal of edema in arm
111	12141	41	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	.....	Died of recurrence a few months after operation
112	12184	52	X	X	.....	X	.....	.....	Excised breast and pectoral muscles and axillary glands	Nov., 1906	No signs of recurrence. Considerable edema of arm
113	12423	56	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	.....	.....
114	12424	47	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	.....	.....
115	12469	75	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	.....	Died 1 year after operation. No local signs of recurrence
116	12740	54	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	.....	Died 3 years later from pneumonia. No signs of recurrence
117	12866	64	.....	.....	.....	.....	.....	.....	Excised breast and pectoral muscles and axillary glands	None	.....
118	12983	58	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	None	.....
119	13017	57	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	.....	Died of cancer in chest 6 months later
120	13019	43	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	April 11, 1907	Perfectly well since operation
121	13154	40	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	May 1, 1907	Perfectly well. Had few X-ray treatments
122	13396	47	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	April 12, 1907	X-ray for 3 months. One year later carcinoma developed in other breast. This was removed. Well now
123	13415	45	X	.....	X	.....	X	.....	Excised breast and pectoral muscles and axillary glands	April 13, 1907	30 X-ray treatments after operation. Slight swelling of arm. Otherwise well
124	13423	30	.....	X	.....	X	.....	.....	Excision of breast and fascia of pectoral muscle and axillary glands	None	.....
125	13905	50	.....	X	.....	X	.....	.....	Excised small nodule from old scar	April 22, 1907	Recurrent case. Primary operation Jan. 30, 1902. Had several slight recurrences after second operation, which were cauterized with arsenic. Healed after this

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Number.	Hospital No.	Age.	Involvement of				Date of operation.	Operation.	Date of last communication of patient.	Result.
			Ax. Cl.	Cer. Cl.	Skin.	Muscle.				
126	13990	44	X	.....	.....	.....	Feb. 15, 1904	Excised breast and pectoral muscles and axillary glands	.....	Died 18 months after operation of carcinoma
127	14733	39	.....	.....	.....	.....	July 18, 1904	Excised breast and pectoral muscles and axillary glands	April 11, 1907	X-ray for 3 months after operation. Perfectly well now
128	14972	62	X	.....	X	X	August 31, 1904	Excised breast and pectoral muscles and axillary glands	None	
129	15004	43	X	.....	X	X	Sept. 2, 1904	Excised breast and pectoral muscles and axillary glands	Jan., 1907	Recurrent case. Had portion of breast removed 3 months previous. Again had recurrence. X-ray and serum treatment. Well at present
130	15220	95	.....	.....	.....	.....	Oct. 22, 1904	Excised breast and pectoral muscles and axillary glands	April 12, 1907	Perfectly well
131	15388	39	X	.....	.....	.....	Nov. 26, 1904	Excised breast and pectoral muscles and axillary glands	None	
132	15398	35	X	X	X	.....	Nov. 30, 1904	Excised breast and pectoral muscles and axillary glands	.....	Had rapid recurrence and died April 25, 1905
133	15440	60	X	.....	X	.....	Dec. 7, 1904	Excised breast and pectoral muscles and axillary glands	April 10, 1907	No return of disease. General health very good
134	15533	70	.....	.....	.....	.....	Jan. 4, 1905	Excised breast and pectoral muscles and axillary glands	April 22, 1907	Examined personally. No sign of recurrence
135	15774	45	X	.....	X	.....	Feb. 22, 1905	Excised breast and pectoral muscle and axillary glands. Skin grafted	.....	Died Oct. 16, 1905, apparently from carcinoma inside of chest
136	15782	51	X	.....	.....	.....	Feb. 24, 1905	Excised breast and pectoral muscles and axillary glands	May 4, 1907	Perfectly well

137	15080	45	×	.....	.....	March 1, 1905	Excised breast and pec- toral muscles and ax- illary glands	April 18, 1907	Took long time to regain strength. Perfectly well now
138	16182	35	.....	.....	.....	May 1, 1905	Excised breast and pec- toral muscles and ax- illary glands	None	
139	16253	72	.....	.....	.....	May 24, 1905	Excised breast and pec- toral muscles and ax- illary glands	April 14, 1907	About 3 months after operation a small nodule appeared above clavi- cle. Has remained same ever since. No pain
140	16346	40	×	.....	×	June 5, 1905	Excised breast and pec- toral muscles and ax- illary glands	April 15, 1907	Has taken 27 X-ray treatments. No recurrence.
141	16351	46	.....	.....	.....	June 5, 1905	Excised breast and pec- toral muscles and ax- illary glands	None	
142	16464	55	.....	.....	.....	June 23, 1905	Excised breast and ax- illary gland, left pec- toral muscles	April 14, 1907	No recurrence. General health has not been so good in years
143	16813	45	×	.....	.....	August 23, 1905	Excised breast and pec- toral muscles and ax- illary glands	April 12, 1907	No signs of recurrence
144	16824	39	×	.....	×	August 25, 1905	Excised breast and pec- toral muscles and ax- illary glands	.....	Died 8 months later from carcinoma in chest
145	17212	44	×	.....	.....	Oct. 23, 1905	Excised breast and pec- toral muscles and ax- illary glands	April 15, 1907	Perfectly well, except some swelling of arm
146	17247	57	×	.....	.....	Oct. 27, 1905	Excised breast and pec- toral muscles and ax- illary glands	None	
147	17401	45	×	.....	.....	Nov. 22, 1905	Excised breast and pec- toral muscles and ax- illary glands	April 21, 1907	Perfectly well except at times has stiffness in arm
148	17515	54	×	.....	×	Dec. 11, 1905	Excised breast and pec- toral muscles and ax- illary glands	.....	Had rapid recurrence, and died July 22, 1906
149	17556	44	×	.....	.....	Dec. 18, 1905	Excised breast and pec- toral muscles and ax- illary glands	April 18, 1907	Some numbness in arm. Otherwise well
150	17558	38	.....	.....	×	Dec. 20, 1905	Excised breast and pec- toral muscles and ax- illary glands	.....	Died about 10 months later of carcinoma
151	17606	50	.....	.....	.....	Dec. 26, 1905	Excised breast and pec- toral muscles and ax- illary glands	.....	Recurrent case. Primary operation June, 1905. Died of shock
152	17656	57	×	.....	×	Jan. 3, 1905	Amputation of arm and scapula and part of clavicle Excised breast and pec- toral muscles and ax- illary glands	Examined April 12, 1907	There was evidence of local recurrence. This removed by actual cautery. Wound not completely healed. Still takes X-ray

ANALYTICAL TABLE OF CASES OF CARCINOMA OF BREAST OPERATED UPON AT THE AUGUSTANA HOSPITAL.—Continued

Number.	Hospital No.	Age.	Involvement of				Date of operation.	Operation.	Date of last communication of patient.	Result.
			Ax. Gl.	Cer. Gl.	Skin.	Muscle.				
153	17883	73	X	.....	.....	.....	Feb. 2, 1906	Excised breast and dissected axilla.	Examined April 3, 1907	Perfect result. No signs of recurrence
154	17907	48	X	.....	.....	.....	Feb. 7, 1906	Excised breast and pectoral muscles and axillary glands	April 22, 1907	No signs of recurrence. Has pain in arm if she uses it too much
155	18694	52	X	.....	.....	.....	June 11, 1906	Excised breast and pectoral muscles and axillary glands	April 28, 1907	No return of former disease. X-ray 3 times a week for 5 weeks
156	18752	39	X	.....	.....	.....	June 18, 1906	Excised breast and pectoral muscles and axillary glands	March 4, 1907	No recurrence. Some contraction of scar in axilla
157	18779	55	X	.....	.....	.....	July 23, 1906	Excised breast and pectoral muscles and axillary glands	April 30, 1907	Perfectly well. Has had 24 X-ray treatments
158	18881	56	.....	.....	.....	.....	July 23, 1906	Excised breast and pectoral muscles and axillary glands	April 18, 1907	No signs of recurrence. Arm somewhat stiff
159	19033	49	X	.....	.....	.....	August 1, 1906	Excised breast and pectoral muscles and axillary glands	April 15, 1907	Perfect result X-ray treatment for 4 months
160	19138	47	X	.....	.....	.....	Sept. 3, 1906	Excised breast and pectoral muscles and axillary glands	April 13, 1907	Took X-ray treatment for 3 weeks. Feels perfectly well
161	19556	64	.....	.....	.....	.....	Oct. 26, 1906	Excised breast and pectoral muscles and axillary glands	.....	Died Feb. 2, 1907, from extension of carcinoma into chest
162	19799	65	X	.....	X	X	Nov. 28, 1906	Excised breast and pectoral muscles and axillary glands and cauterized over ribs	.....	First operation Feb., 1900. Rapid recurrence. Second operation Oct. 1901. In 1902 another recurrence, which disappeared under X-ray treatment. Present recurrence began 1 year ago
163	19904	54	X	.....	X	X	Dec. 10, 1906	Excised nodes in old scar and cauterized base of wound with actual cautery	.....	Had recurrence 1 year later, which was excised May 23, 1899.
164	.....	48?	.....	.....	.....	.....	May 23, 1899	Excised breast	.....	Had recurrence 1 year later. Took X-ray treatments until Oct., 1903, when she became bed-fast and died a short time afterwards

Cases not heard from, 63.

Of the 44 patients whose deaths have been reported, only 39 died either as a result of the operation or from recurrence.

The following five cases died of other causes than carcinoma without recurrence:

CASE 18.—Age 47, died three years after operation from some acute disease not stated in the letter reporting her death. No signs of recurrence.

CASE 26.—Age 57, died ten years and six months after operation from apoplexy. No signs of recurrence.

CASE 32.—Age 59, died five years after operation from nephritis. No signs of recurrence.

CASE 42.—Age 58, died seven years after operation. No signs of recurrence.

CASE 116.—Age 54, died three years after operation from pneumonia. No signs of recurrence.

The following case seems to have especial interest:

CASE 12.—Age 44, was operated upon March 12, 1894. One year later had recurrence in scar. Doctor applied a paste causing necrosis of the wound. This healed completely, and patient has been perfectly well since. Now thirteen years and two months since operation.

It has seemed proper to use X-ray treatment systematically in all cases after operation. This, however, was not always possible in patients living in the smaller country towns.

*Cases which had X-ray Treatments.*—All cases operated during the past six years had X-ray exposures during the patient's stay in the hospital. Of the cases heard from, 22 took X-ray treatment after leaving the hospital.

The following cases seem to be sufficiently interesting to justify especial abstracts of their histories:

CASE 87.—Age 29. Operated May 17, 1901. Six months later she had a recurrence in the line of the incision, with numerous nodules in the skin, a recurrence in the axillary and cervical glands, and apparently a carcinoma in the cranial cavity causing a marked protrusion of the right eye. All of these disappeared

under X-ray exposures. The patient was last heard from one year ago. She was perfectly well at this time, five years after the operation.

CASE 96.—Age 60. Had recurrence one year after operation. This disappeared under X-ray exposures, but recurred two years later, from which she died.

CASE 125.—Age 50. Operated upon January 24, 1904. Following this had recurrence in scar. Was given vigorous X-ray exposures with very little benefit. Arsenic was applied to wound, causing necrosis of considerable amount of tissue. Wound healed completely. Patient perfectly well now.

CASE 129.—Age 43. Operated upon September 9, 1904. Had primary operation three months previous, when only a portion of the breast was removed. Had second recurrence a few months later. Under X-ray exposures and the treatment by hypodermic injections of a proprietary remedy recurrence disappeared and she is now perfectly well.

CASE 163.—Age 54. Primary operation February, 1900. Rapid recurrence. Second operation October, 1900. A few months later a second recurrence, involving the axilla and the cervical lymph glands and the tissues of the scar, making further operative treatment apparently hopeless. This disappeared under X-ray treatment and remained well for four years. Third recurrence began one year ago. This was excised December 10, 1906. Has had X-ray treatment most of the time during the past five years. Examined May 20, 1907, and found well.

CASE 164.—Age 48. Operated upon May 23, 1889. Had recurrence ten years later, which was excised May 23, 1899. Recurred one year later. Took X-ray treatments continually for three and one-half years, when she died of carcinoma.

A review of this series of cases, although incomplete, seems to show that if the very complete operation which is now generally practised is employed in these cases reasonably early, there is much reason for expecting a fair percentage of permanent cures.